4.5 Readout of direction of the wind

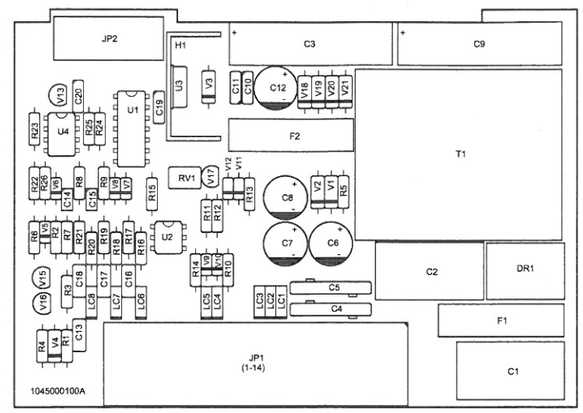
No jumper across the two pins of JP1, pos. 3.
Standard readout of direction of the wind 360°, pointing the stem of the ship.

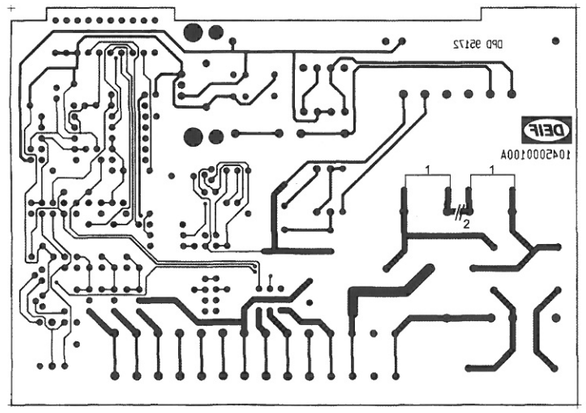
Short circuit across the two pins of JP1, pos. 3.
Readout of direction of the wind is adjusted by 180°, meaning 360° pointing astern of the ship.

(No influence on NMEA output).

4.6 110V AC or 220V AC supply

If change of the voltage supply is needed, the rear plate is removed and the power/input PCB is carefully pulled out, see figure 3.





"1" ——— = 2 pcs JUMPER
"2" // = COPPER LINE CUT-OFF

Figure 3

a. Change from 110V AC to 220V AC: Remove the 2 jumpers across 1.
Remount the jumpers across 2.
b. Change from 220V AC to 110V AC: Mount the 2 jumpers across 1.
Remove the jumpers across 2.

5 Fault finding

It is assumed in the following guidance that the fault finding is carried out on a system, which has been working. Some of the procedures may however also be useful when installing and commissioning the first time. At first, the purpose is to localize the cause for the missing supply voltage, blown fuse, defect wind sensor, defect instrument or fault in the cable connection. Further fault finding and possible repair must be carried out by a specialist/is specialist work. Warranty void if mounted seal is broken!

5.1 No light in the instrument

There is neither light in the circle of LED nor in the digital display, the "m/s" or the "KTS" LED. The fault is most likely caused by fault in the internal 5V DC supply, which supplies the electronic, meaning the LEDs are possible due to the fact that one of the two internal fuses has blown. See figure 3 for power supply PCB.

Check that the correct AC supply voltage (normally 220V AC, possible 110V AC is present on the terminals marked "≈". The correct supply voltage is stated by means of a cross (x) on the label on the back of the instrument house.

Check that there is only measured 5V DC between the terminals "1" (+5V) and "2" (0V). Provided that the AC supply voltage is present on the terminals but 5V DC is missing, a fuse has blown. The back panel of the instrument house is removed and the defect fuse is replaced.

Provided that there is less than 4.85V between terminal "1" and "5", the internal power supply 5V is either overloaded or defect. By demounting the cables from the sensor, terminal "1" - "4", the fault may be located to be either the instrument or the sensor with cable. Provided that the 5V voltage is increasing to normal, the fault has to be found either in the sensor or in the cable connection to the sensor.

5.2 Flashing display

This is possible if the supply voltage is less than the mark voltage -20%, that is less than 220V - 20% = 176V as far as the 220V displays are concerned. As long as the instrument is flashing, the built-in processor has inadequate supply voltage.

5.3 Indication whether the instrument is locked

Control whether the sensor follows the wind speed and direction or has been locked. The locking may be caused by lack of signal connection between sensor and instrument.

4 Installation

4.1 Placing of wind sensor

The wind sensor must be placed far from any object, which may influence the measuring result. The best result is reached by placing the wind sensor at the top of the ship's mast.

Note: Keep away from the funnel.

Installation of the sensor immediately above the ship's deck is unfavourable, especially if the deck consists of side faces over which the wind is forced. In this case there may be turbulence of wind speed and wind direction, which has no coherence with the undisturbed wind speed and direction.

4.2 Cable connection

Wind sensor type 879.3 is delivered with 2 m fixed cable as standard.

This cable must not be replaced. Connections to the installation cable must be achieved through a connection box. If the wind sensor is dismounted, warranty is not valid.

In order to protect the wind sensor in the best possible way against lightning strokes, the cable screen is connected to the wind sensor housing, which is fixed to the mast. In the connection box mounted on the mast, the wind sensor cable screen and the installation cable screen should be connected to the mast, using a solid wire for both.

For further protection of the cable between the wind sensor and the connection box, as well as the installation cable between the connection box and the wind indicating instrument, using a metal conduit pipe is recommended.

Installation cable: 4 x 0.75 m^2 screened max. 300 m, and max. 40nF capacity between the signal conductors.

4.3 Installation of wind sensor

The wind sensor is intended for installation on a vertical socket or a tube using the tap (1124480004) enclosed on delivery. The tap has the following dimensions, see figure 1.

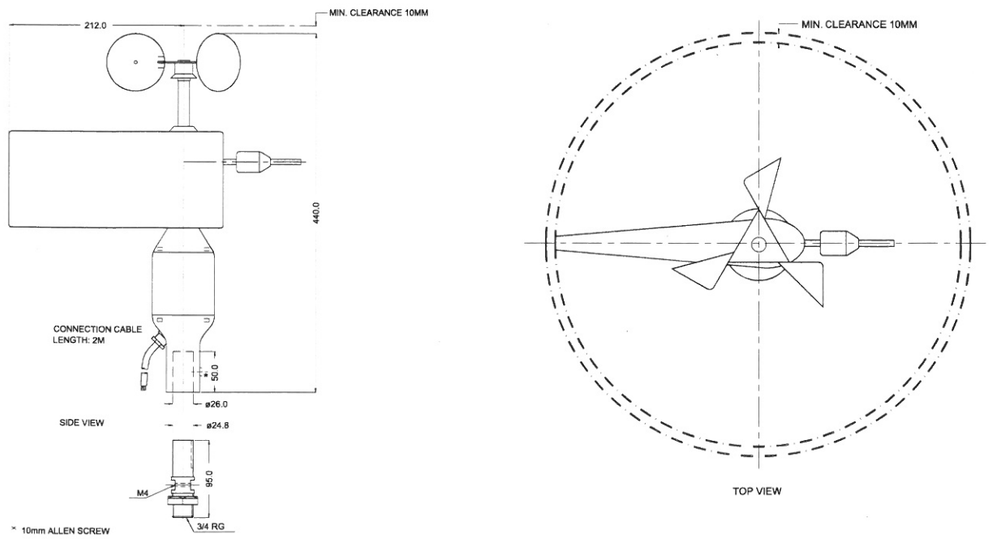


Figure 1

6.6 Signal levels for NMEA 0183 and RS-232C

The receiver is connected to instrument type 879.50 with a 2-wire screened cable. Terminal "A" is signal and terminal "B" is return (0V).

The NMEA 0183 standard requests the following signal levels:

"1" between -15 and +0.5V	$\|I_{sink}\| \geq 0mA$
"0" between +15 and +4V	$\|I_{source}\| \geq 15mA$ @ +4V

The instrument type 879.50 releases the following levels:

"1" –9.5V +/-0.5V	$\|I_{sink}\| \geq 1mA$ @ -8V
"0" +9.5V +/-0.5V	$\|I_{source}\| \geq 15mA$ @ +8V

Note that NMEA does not request that the output may settle power in "1" condition, but it permittable. This is used in 879.50 in order to make it compatible with RS-232C/V24.
The NMEA 0183 signal is inverted like RS232.

The "A" and the "B" signals are galvanically separated as prescribed by NMEA.
An RS232C receiver may be connected. Applicable would be a PC with the following configuration:

Transmission speed.....4800 Baud
Number of data bit 8
Parity bit.....None
Number of stop bits.....None

7 Type numbers

Combined wind sensor.....type 879.3
Instrument.....type 879.521
Instrument with NMEA output.....type 879.50

8 Spare parts and accessories

8.1 Spare parts

The following is recommended as spare parts:

2 pcs. Fuse F1, 0.1AT, Ø5 x 20 mm (item No. 1020500010)
2 pcs. Fuse F2, 1AT, Ø5 x 20 mm (item No. 1020500006)
1 pcs. Three-armed cup rotor (item No. 1299900004)

8.2 Accessories

The following is enclosed on delivery:

1 pcs. Bag of coppergrease for lubricating the socket for 879.3
1 pcs. User's Manual (item No. 1159040004)

The following can be ordered:

1 pcs. Mounting tap (item No. 1124480004)

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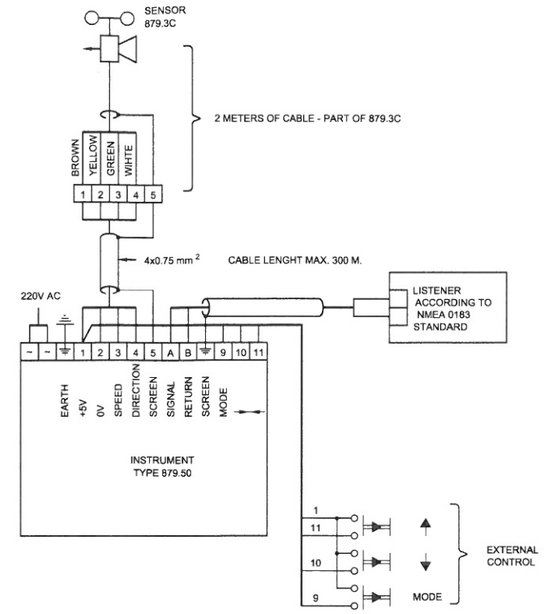

Figure 6 Connection diagram (2 of 3)

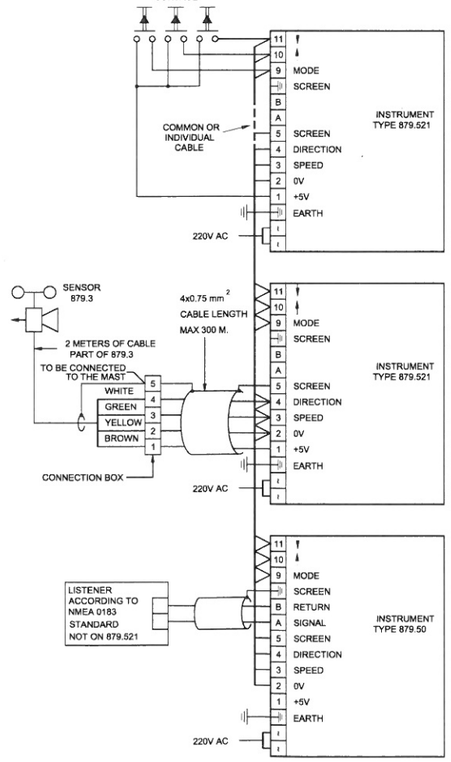

Figure 7 Connection diagram (3 of 3)